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Appl. No. 10/714,075

Amdt. Dated 02/06/2005

Reply to Office Action of 11/15/2005

REMARKS

This Amendment is in response to the Office Action mailed 11/15/2005. In the Office Action, claims 2-4, 7-20, 22, 23, and 36-39 were rejected under 35 U.S.C. § 102(e). Reexamination and reconsideration in view of the amendments and the remarks made herein is respectfully requested.

Applicant has amended independent claims 2, 7, 16, and 22 by this response. Applicant has added a new dependent claim 40. Accordingly, claims 2-20 and 22-40 are now pending. Of those pending, claims 2, 5, 7, 11, 16, 22, and 24 are independent claims.

Applicant believes that no new matter has been added by this response

I) ALLOWED CLAIMS

Claims 5, 6, and 24-35 are indicated as being allowed in the Office Action. [Office Action, page 9]. Applicant respectfully thanks the Examiner for such indication.

IV) Claim Rejections Under 35 U.S.C. § 102(e)

In the Office Action, claims 2-4, 7-20, 22, 23, and 36-39 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Application Publication No. 2004/0123207 filed by John F. Zumkehr et al. ("Zumkehr"). [Office Action, page 2]. Applicant respectfully traverses this rejection.

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Applicant has amended independent claims 2 and 7 to include the limitations of

"a first tristate driver having an output coupled to the first off chip driver calibration terminal for pull-up calibration of pull-up transistors"

and

"a second tristate driver having an output coupled to the second off chip driver calibration terminal for pull-down calibration of pull-down transistors".

Applicant has amended independent claims 16 and 22 to include the limitations of

"a first tristate driver having an output coupled to the pull-up calibration terminal for pull-up calibration of pull-up transistors in the double data rate memory device"

and

"a second tristate driver having an output coupled to the pull-down calibration terminal for pull-down calibration of pull-down transistors in the double data rate memory device".

Regarding independent claims 2, 7, 16, and 22, the Office Action seems to allege that internal switch terminals of Zumkeher's upper switch 406 and Zumkehr's lower switch 406

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discloses Applicant's calibration terminals. Applicant respectfully disagrees.

Zumkehr does not disclose any tristate driver having an output that is coupled to a switch terminal of Zumkehr's upper switch 406 or Zumkehr's lower switch 406 as is now claimed in Applicant's amended independent claims 2, 7, 16, and 22. Moreover, Zumkehr does not disclose pull-up calibration of pull-up transistors and pull-down calibration of pull-down transistors as is explained more fully below.

Thus for the foregoing reasons, Applicant respectfully submits that independent claims 2, 7, 16, and 22 and their respective dependent claims are not anticipated by Zumkehr.

Regarding independent claim 11, the Office Action alleged that method claims 11-15 are essentially the same in scope as apparatus claims 2-4 and 7-8 and were similarly rejected.

Independent claim 11 recites elements of

“selecting a pull-up calibration terminal to be coupled to a voltage reference node to provide a pull-up calibration voltage thereon, and
calibrating a pull-up of an off chip driver”
if in a pull-up calibration mode.

Independent claim 11 further recites elements of

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"selecting a pull-down calibration terminal to be coupled to the voltage reference node to provide a pull-down calibration voltage thereon, and calibrating a pull-down of the off chip driver" if in a pull-down calibration mode.

Generally, the Office Action alleges that Zumkehr's paragraph [0043] discloses Applicant's calibrating of an off chip driver or its pull-up and pull-down. Applicant respectfully disagrees.

Zumkehr's paragraph [0043] only discloses a noise margin adjustment mechanism for **input receivers** and not a calibration of output drivers. As illustrated in Zumkehr's Figure 3, the noise margin adjustment block 340 couples to **input receivers** within the memory controller. As stated by Zumkehr's paragraph [0043], the "mechanism [] modif[ies] the VREF voltage 225 going to the **DQ receivers** such that the threshold is raised or lowered." (emphasis added) [Zumkehr, para. [0043], lines 5-7].

More specifically, Zumkehr does not disclose providing a "pull-up calibration voltage" or a "pull-down calibration voltage" as recited in independent claim 11. Nor does Zumkehr disclose "calibrating a pull-up of an off chip driver" or "calibrating a pull-down of the off chip driver" as is recited in independent claim 11.

Thus for these reasons, Applicant respectfully submits that independent claim 11 and its respective dependent claims are not anticipated by Zumkehr.

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In view of the amendments made to the claims and the foregoing remarks, Applicant respectfully requests the withdrawal of the 35 USC 102(e) claim rejections of claims 2-4, 7-20, 22, 23, and 36-39 over Zumkehr.

V) NEW CLAIMS

Applicant has added new dependent claim 40 dependent from independent claim 2. The limitations of dependent claim 40 were limitations previously found in claim 2.

Applicant believes that it has placed independent claim 2 in condition for allowance such that dependent claim 40 depending there from with further limitations is also in condition for allowance.

Applicant respectfully submits that new dependent claim 40 is also in condition for allowance.

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CONCLUSION

In view of the foregoing it is respectfully submitted that the pending claims are in condition for allowance.

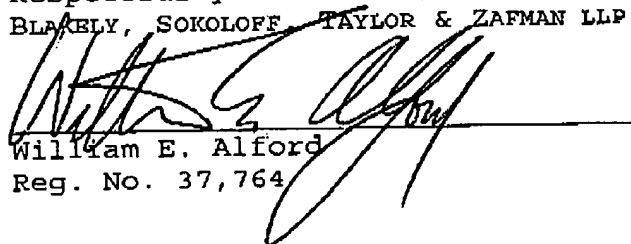
Reconsideration of the rejections and objections is respectfully requested. Allowance of the claims at an early date is solicited.

The Examiner is invited to contact Applicant's undersigned counsel by telephone at (714) 557-3800 to expedite the prosecution of this case should there be any unresolved matters remaining.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees in connection with the filing of this paper, including extension of time fees, to Deposit Account 02-2666 and please credit any excess fees to such deposit account.

Respectfully submitted,
BLAKEY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Dated: February 6, 2006


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CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this correspondence is being transmitted via facsimile to the Patent and Trademark Office under 37 CFR §1.8 on: February 6, 2006 to Examiner Daniel Chang at (571) 273-8300.


Colette Angle

2/6/2006

Date